

## Science Rolling Programme (updated May 2024)

Year A	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Years 1&2	<b>Seasonal change Y1/M1</b> <i>Series of outdoor learning lessons to be taught across the year so that children can observe the impact of the changing seasons around them. Recorded in Season's diary / class floor book.</i>					
Years 1&2	<b>Seasonal changes</b>  <i>Y1 – Module 3</i>	<b>Naming and describing materials</b>  <i>Y1 – Module 3</i>	<b>Changing materials</b>  <i>Y2 – Module 5</i>	<b>Human body and senses</b>  <i>Y1 – Module 2</i>	<b>Growing seeds and bulbs</b>  <i>Y2 – Module 3</i> <i>Y1 pupils start with Y1 M6 Lesson 1 &amp; 2</i>	<b>Growing healthy plants</b>  <i>Y2 – Module 6</i>
Years 3&4	<b>Rocks, soils and fossils</b>  <i>Y3 – Module 1</i>	<b>Forces, friction and magnets</b>  <i>Y3 – Module 3</i>	<b>Classification of plants and animals</b>  <i>Y4 – Module 6</i>	<b>Human impact on the environment</b>  <i>Y4 – Module 3</i> <i>Y3 start with Y3 M1 Lesson 3</i>	<b>Electricity: circuits</b>  <i>Y4 – Module 2</i>	<b>Flowering plants and plant growth</b>  <i>Y3 – Module 5</i>
Years 5&6	<b>Properties and uses of materials</b>  <i>Y5 – Module 2</i>	<b>Separating mixtures and changing materials</b> <i>Y5 – Module 5</i>	<b>Human circulation</b>  <i>Y6 – Module 4</i>	<b>Body health</b>  <i>Y6 – Module 6</i> <i>Start with Y6, M4, Lesson 3</i>	<b>Light</b>  <i>Y6 – Module 3</i>	<b>Electricity: changing circuits</b>  <i>Y6 – Module 5</i>

Year B	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Years 1&2	<b>Growing up (animals and humans)</b>  <i>Y2 – Module 4</i>	<b>Animals (vertebrates)</b>  <i>Y1 – Module 5</i>	<b>Properties and uses of materials</b>  <i>Y1 – Module 4</i> <i>Y1 pupils start with Y1 M3 Lesson 1 &amp; 2</i>	<b>Choosing materials</b>  <i>Y2 – Module 2</i>	<b>Identifying plants and their parts</b>  <i>Y1 – Module 6</i>	<b>Local habitats</b>  <i>Y2 – Module 1</i>
Years 3&4	<b>Changes of state</b>  <i>Y4 – Module 1</i>	<b>Sound</b>  <i>Y4 – Module 5</i>	<b>Movement and nutrition for the human body</b> <i>Y3 – Module 4</i>	<b>Digestion and food chains</b>  <i>Y4 – Module 4</i>	<b>Light and shadows</b>  <i>Y3 – Module 2</i>	<b>Flowering plants life cycle</b>  <i>Y3 – Module 6</i>
Years 5&6	<b>Forces and mechanisms</b>  <i>Y5 – Module 1</i>	<b>Plant and animal life cycles</b>  <i>Y5 – Module 4</i>	<b>Earth and Space</b>  <i>Y5 – Module 3</i>	<b>Human growth</b>  <i>Y5 – Module 6</i>	<b>Classification of living things</b>  <i>Y6 – Module 1</i>	<b>Evolution and inheritance</b>  <i>Y6 – Module 2</i>

YEAR A	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Years 1&2	<b>Seasonal changes</b> <ul style="list-style-type: none"> <li>Observe changes across the four seasons</li> <li>Observe and describe the weather associated with the seasons and how day length varies.</li> </ul>	<b>Naming and describing materials</b> <ul style="list-style-type: none"> <li>Distinguish between an object and the material it's made of.</li> <li>Identify and name a variety of everyday materials including wood, plastic, glass, metal, water and rock.</li> </ul>	<b>Changing materials</b> <ul style="list-style-type: none"> <li>Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</li> </ul>	<b>Human body and senses</b> <ul style="list-style-type: none"> <li>Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense</li> </ul>	<b>Growing seeds and bulbs</b> <ul style="list-style-type: none"> <li>Observe and describe how seeds and bulbs grow into mature plants.</li> </ul>	<b>Growing healthy plants</b> <ul style="list-style-type: none"> <li>Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy</li> </ul>
Years 3&4	<b>Rocks, soils and fossils</b> <ul style="list-style-type: none"> <li>Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties.</li> <li>Recognise that soils are made from rocks and organic matter.</li> <li>Describe in simple terms, how fossils are formed when things that have lived are trapped within rock.</li> </ul>	<b>Forces, friction and magnets</b> <ul style="list-style-type: none"> <li>Compare how things move on different surfaces</li> <li>Notice that some forces need contact between two objects, but magnetic forces can act at a distance</li> <li>Observe how magnets attract or repel each other and attract some materials and not others</li> <li>Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials</li> <li>Describe magnets as having two poles</li> </ul>	<b>Classification of plants and animals</b> <ul style="list-style-type: none"> <li>recognise that living things can be grouped in a variety of ways</li> <li>explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment</li> </ul>	<b>Human impact on the environment</b> <ul style="list-style-type: none"> <li>recognise that environments can change and that this can sometimes pose dangers to living things</li> </ul>	<b>Electricity: circuits</b> <ul style="list-style-type: none"> <li>Identify common appliances that run on electricity</li> <li>construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers</li> <li>identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery</li> <li>recognise some common conductors and insulators, and associate metals with being good conductor</li> <li>recognise that a</li> </ul>	<b>Flowering plants and plant growth</b> <ul style="list-style-type: none"> <li>identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers</li> <li>explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant</li> <li>investigate the way in which water is transported within plants</li> <li>explore the part that flowers play in the life cycle of flowering plants, including pollination, seed</li> </ul>

		<ul style="list-style-type: none"> <li>Predict whether two magnets will attract or repel each other, depending on which poles are facing</li> </ul>			switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit	formation and seed dispersal
Years 5&6	<b>Properties and use of materials</b> <ul style="list-style-type: none"> <li>compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, electrical conductivity and response to magnets</li> <li>investigate the thermal conductivity of materials</li> <li>give reasons, based on evidence from comparative and valid tests, for the particular uses of everyday materials, including metals, wood and plastic</li> </ul>	<b>Separating mixtures and changing materials</b> <ul style="list-style-type: none"> <li>know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution</li> <li>use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating</li> <li>demonstrate that dissolving, mixing and changes of state are reversible changes</li> <li>explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda</li> </ul>	<b>Human circulation</b> <ul style="list-style-type: none"> <li>identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood</li> <li>describe the ways in which nutrients and water are transported within animals, including humans</li> </ul>	<b>Body health</b> <ul style="list-style-type: none"> <li>recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function</li> </ul>	<b>Light</b> <ul style="list-style-type: none"> <li>recognise that light appears to travel in straight lines</li> <li>use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye</li> <li>explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes</li> <li>use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them</li> </ul>	<b>Electricity: changing circuits</b> <ul style="list-style-type: none"> <li>associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.</li> <li>compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches</li> <li>use recognised symbols when representing a simple circuit in a diagram</li> </ul>

YEAR B	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Years 1&2	<b>Growing up (animals and humans)</b> <ul style="list-style-type: none"> <li>Notice that animals, including humans, have offspring which grow into adults.</li> <li>Find out about and describe the basic needs of animals, including humans, for survival (water, food and air)</li> <li>Describe the importance of exercise, eating the right amounts of different types of food and hygiene.</li> </ul>	<b>Animals (vertebrates)</b> <ul style="list-style-type: none"> <li>Identify and name a variety of common animals including fish, amphibians, bird, reptiles and mammals.</li> <li>Identify and name a variety of common animals that are carnivores, omnivores and herbivores</li> <li>Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets).</li> </ul>	<b>Properties and uses of materials</b> <ul style="list-style-type: none"> <li>Distinguish between an object and the material it's made of.</li> <li>Describe the simple physical properties of everyday materials</li> <li>Compare and group together a variety of everyday materials on the basis of their simple physical properties.</li> </ul>	<b>Choosing materials</b> <ul style="list-style-type: none"> <li>Identify and compare the suitability of a variety of everyday materials (including wood, metal, plastic, glass, brick, rock, paper and cardboard) for particular uses.</li> </ul>	<b>Identifying plants and their plants</b> <ul style="list-style-type: none"> <li>Identify and name a variety of common wild and garden plants including deciduous and evergreen trees.</li> <li>Identify and describe the basic structure of a variety of common flowering plants, including trees</li> </ul>	<b>Local habitats</b> <ul style="list-style-type: none"> <li>Explore and compare the difference between things that are living, dead and have never been alive.</li> <li>Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different animals and plants and how they depend on each other.</li> <li>Identify and name a variety of plants and animals in their habitats, including microhabitats</li> <li>Describe how animals obtain their food from plants and other animals using the idea of a simple food chain and identify and name different sources of food</li> </ul>
Years 3&4	<b>Changes of state</b> <ul style="list-style-type: none"> <li>compare and group materials together, according to whether they are solids, liquids or</li> </ul>	<b>Sound</b> <ul style="list-style-type: none"> <li>Identify how sounds are made associating some of them with something vibrating</li> </ul>	<b>Movement and nutrition for the human body</b> <ul style="list-style-type: none"> <li>identify that animals, including humans, need the</li> </ul>	<b>Digestion and food chains</b> <ul style="list-style-type: none"> <li>identify that humans and some other animals have skeletons and</li> </ul>	<b>Light and shadows</b> <ul style="list-style-type: none"> <li>recognise that light is needed in order to see things and that dark is the absence of light</li> </ul>	<b>Flowering plants life cycle</b> <ul style="list-style-type: none"> <li>explore the part that flowers play in the life cycle of flowering plants,</li> </ul>

	<p>gases</p> <ul style="list-style-type: none"> <li>observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C)</li> <li>identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature</li> </ul>	<ul style="list-style-type: none"> <li>Recognise that vibrations from sound travel through a medium to the ear</li> <li>Find patterns between: The pitch of a sound and features of the object that produced it</li> <li>Find patterns between the volume of a sound and the strength of the vibrations that produced it.</li> <li>Recognise that sounds get fainter as the distance from the sound source increases.</li> </ul>	<p>right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat</p> <ul style="list-style-type: none"> <li>identify that humans and some other animals have skeletons and muscles for support, protection and movement</li> </ul>	<p>muscles for support, protection and movement</p> <ul style="list-style-type: none"> <li>describe the simple functions of the basic parts of the digestive system in humans</li> <li>identify the different types of teeth in humans and their simple functions</li> <li>construct and interpret a variety of food chains, identifying producers, predators and prey</li> </ul>	<ul style="list-style-type: none"> <li>notice that light is reflected from surfaces</li> <li>recognise that light from the sun can be dangerous and that there are ways to protect their eyes.</li> <li>recognise that shadows are formed when the light from a light source is blocked by a solid object</li> <li>find patterns in the way that the size of shadows change.</li> </ul>	<p>including pollination, seed formation and seed dispersal.</p>
Years 5&6	<p><b>Forces and mechanisms</b></p> <ul style="list-style-type: none"> <li>explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object</li> <li>identify the effects of air resistance, water resistance and friction, that act between moving surfaces</li> <li>recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a</li> </ul>	<p><b>Plant and animal life cycles</b></p> <ul style="list-style-type: none"> <li>describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird</li> <li>describe the life process of reproduction in some plants and animals</li> </ul>	<p><b>Earth and Space</b></p> <ul style="list-style-type: none"> <li>describe the movement of the Earth and other planets relative to the sun in the solar system</li> <li>describe the movement of the moon relative to the Earth</li> <li>describe the sun, Earth and moon as approximately spherical bodies</li> <li>use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky</li> </ul>	<p><b>Human growth</b></p> <ul style="list-style-type: none"> <li>Describe the changes as humans develop to old age.</li> </ul>	<p><b>Classification of living things</b></p> <ul style="list-style-type: none"> <li>describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals</li> <li>give reasons for classifying plants and animals based on specific characteristics</li> </ul>	<p><b>Evolution and inheritance</b></p> <ul style="list-style-type: none"> <li>recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago</li> <li>recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents</li> <li>identify how animals and plants are adapted to suit their environment in</li> </ul>

